NIGHTFORCE

Owner's Manual

NXS and Precision Benchrest Models

NIGHTFORCE
NF
PRECISION OPTICS

Nightforce research and development teams, located in Central Idaho, design technically advanced riflescopes to perform in uncompromising situations.

The philosophy of the company is highly specialized and focused on building the ultimate instrument for the application. Our research and testing has developed new standards in manufacturing and quality control. Every Nightforce scope receives 100% individual inspection and must pass vigorous testing prior to shipping. Our commitment to ultimate riflescope performance by using cutting edge technology and advanced optical/mechanical designs is unparalleled in the industry.

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Every Nightforce riflescope is of exceptional quality and designed to be the ultimate instrument for its application.

Important Information

FAILURE TO FOLLOW THIS MOUNTING PROCEDURE MAY VOID WARRANTY.

Your riflescope and rifle are only as good as the link between them. The mounting of your riflescope is as important as the bedding of the rifle's action to the stock. To ensure the highest level of performance the following steps in the mounting procedure must be followed as described.

Major concerns in riflescope mounting (materials/design).

(A) Aluminum - A quality aluminum ring and base combination designed for competition rifle shooting are acceptable when being used on benchrest or light recoil rifles.

(B) Steel - A high quality ring and base combination of the weaver type design or similar is required for field use and/or high recoil applications. See "ACCESSORIES" for suggested base options.

Under no circumstances do we recommend the usage of turn in style rotary/dove tail type ring and base designs, especially those equipped with windage adjustment.

Ring Alignment

Most production rifle actions or ring and base combinations are not manufactured accurately enough to ensure proper alignment out of the box. After properly securing bases and rings to the action, alignment and compression of the rings is required prior to mounting the riflescope. To fulfill this requirement a 30mm lapping bar kit is available from Nightforce or other suppliers of precision shooting products. This lapping bar kit consists of a steel bar 30mm in diameter with a handle attached and a non-imbedding lapping compound. This tool is used to remove unnecessary material from the lower halves of the rings eliminating misalignment. This procedure allows both rings to align with one another, thus creating a stress-free platform for the riflescope.

Step One

With bases and lower halves of the rings securely mounted to the rifle, mount the 30mm steel lapping bar and tighten top ring halves. This procedure will cause the rings to compress and take set to the lapping bar instead of the tube body of the riflescope. ***Do not use the riflescope in place of the steel lapping bar.***

Step Two

Remove the lapping bar and apply lapping compound to the lower ring halves. Perform lapping procedure until a maximum of 75% of the surface area has been lapped of the lower ring halves. (Note: or until the bar moves freely. i.e. no binding halves.)

Step Three

Remove the lapping bar and clean all surfaces with alcohol or other solvent to ensure an oil free surface.

Step Four

Set the Nightforce riflescope to the highest magnification. Place the riflescope in the lower portion of the rings as far forward as possible. Install the top ring halves evenly front and rear. Tighten ring screws with just enough tension to still allow the slight movement of the riflescope. Hold the rifle in your normal shooting position and slowly move the riflescope back until the full field of view is obtained. It is recommended to mount the riflescope at this position or slightly forward to ensure maximum eye relief.

Step Five

Focusing the eyepiece - this procedure focuses the reticle to your eye. (This has no effect on the image unless severely out of adjustment).

(1) Check that the riflescope is set at the highest magnification.

(2) Set the parallax adjustment to the infinity setting [∞] on the riflescope.

(3) Look through the riflescope eyepiece to determine if the reticle is clear and in focus instantly. Note: All Nightforce riflescopes are factory set for an average individual eye strength, thus adjustment may not be necessary. Looking at the reticle for an extended period of time during this process will cause your eye to compensate, resulting in false indication of reticle focus.

(4) If adjustment is necessary grasp the eyepiece and rotate counter clockwise – loosening it away from the lock-ring while holding the riflescope from turning in the rings. Several turns of the eyepiece are necessary to achieve any measurable affect. Once reticle focus is achieved, lock the eyepiece by threading the lock-ring back to the eyepiece.

(5) Fast focus eyepiece. Not all Nightforce riflescopes are equipped with a lock-ring on the eyepiece. If your riflescope model is equipped with a fast focus eyepiece ie. No locking ring, simply perform steps 1, 2 & 3 above to set eyepiece focus.

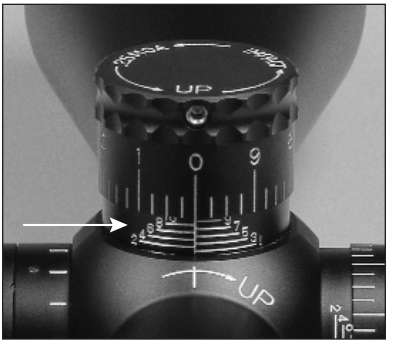
Final Step

First, level the rifle, then hang a plumb by a line at 100 yards. Rotate the riflescope in the rings until the vertical portion of the reticle is parallel with the plumb line. Tighten rings evenly both front and rear until riflescope is secure. Your Nightforce scope is now properly mounted.

Establishing a Zero

Zero the rifle using the center aiming point of the reticle at your desired zero range. (A 200 yard zero is common). If your Nightforce riflescope is equipped with target turret adjustments you may set them to zero with the supplied hex wrench and record the rotation setting your zero is on for both windage and elevation. These are the horizontal indicator marks located below the rotating dials. You have now established a zero to which you may return.

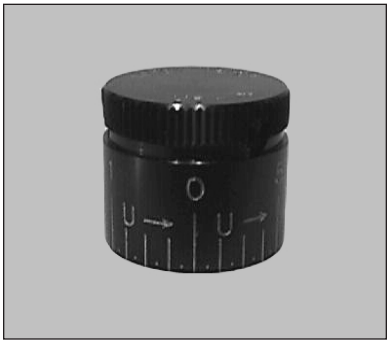
NF Target Turret Indicator Marks



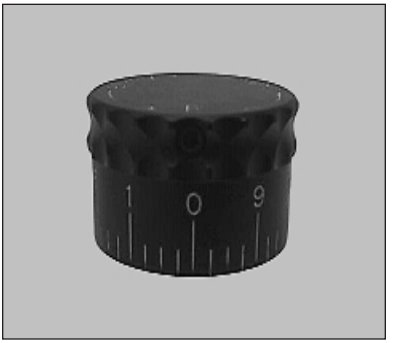
NXS Target Turret Indicator Marks

Creating a Drop Chart

With your elevation and windage target turret adjustments zeroed and recorded, set up a target at the first distance you wish to shoot beyond your established zero. From your zero, count the number of clicks up to hit the target. Record the number of clicks and so on for each range. Now that you have compiled the number of clicks to hit the targets at all the various ranges, you can simply convert the number of clicks to M.O.A. by determining the click value of your specific Nightforce riflescope. For 1/8 (.125) M.O.A. click value, divide all click numbers by 8; this converts clicks to M.O.A. + clicks. For Nightforce riflescopes with 1/4 (.250) M.O.A. click value divide by 4 to convert to M.O.A. This information is compiled to form a drop chart (see top of following page). This drop chart provides you with the information needed to hit your target using M.O.A. plus clicks. **Example:** Utilizing the target turret adjustments with a click value of 1/8 M.O.A. and your drop chart, you can determine the distance requires 8 M.O.A. plus 2 clicks (8.2). Utilizing center aiming point at any power magnification, turn the elevation target turret 8 M.O.A. + 2 clicks and shoot. For Nightforce riflescopes equipped with 1/4 M.O.A. click value, turn the elevation target turret adjustment 8 M.O.A. + 1 click from your zero.



NF Target turret adj. 1/8 (.125) M.O.A. click value



NXS turret adj. 1/4 (.250) M.O.A. click value

1/8 M.O.A. Drop Chart		
Yards	Clicks	Elevation M.O.A.+clicks
200	***0***	***0***
300	***16***	***2.0***
400	***32***	***4.0***
500	***53***	***6.6***
600	***66***	***8.2***

1/4 M.O.A. Drop Chart		
Yards	Clicks	Elevation M.O.A.+clicks
200	***0***	***0***
300	***8***	***2.0***
400	***16***	***4.0***
500	***27***	***6.3***
600	***33***	***8.1***

Note: Divide clicks by 4 (.250) for 1/4 M.O.A. click value or 8 (.125) for 1/8 M.O.A. click value.

Example: (A) 27 clicks divided by 4 equals 6.75 M.O.A. (27÷4=6.75 M.O.A.) or 6 M.O.A. + 3 clicks(6.3)

(B) 27 clicks divided by 8 equals 3.375 M.O.A. (27÷8=3.375 M.O.A.) or 3 M.O.A. + 3 clicks(3.3)

Parallax Adjustment

All Nightforce riflescopes feature an adjustment for eliminating parallax.

Parallax is the apparent movement of the reticle in relation to the target as the shooter moves his eye across the exit pupil of the riflescope. A nod of the head up and down will quickly determine if parallax is present. If parallax has been eliminated the reticle will remain stationary in relation to the target regardless of head placement. Thus not influencing the accuracy of the shot.

Nightforce has two different styles of parallax adjustments. Your Nightforce riflescope will be equipped with one of the two depending on model.

Left – Adjustable objective located on the front objective end. Indicated in yards from 25 to infinity [∞].

Right – Side focus adjustment located on the riflescope saddle opposite from the windage adjustment turret.

Battery Installation

If your Nightforce riflescope is equipped with reticle illumination, it will be one of the two following options:

Left – NF rheostat battery compartment

(A) Variable rheostat mounted on eyepiece. To install the battery unscrew the battery compartment cap counter clockwise using a coin or screwdriver while holding the rheostat to prevent it from rotating. Place a new battery (CR2032 Panasonic or equivalent) positive (+) side up or facing you. Replace and tighten the cap.

Left – NXS rheostat battery compartment

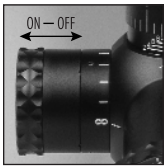
(B) Integrated reticle illumination/parallax adjustment system. To install the battery unscrew the battery compartment cap counter clockwise while holding the parallax adjustment to prevent it from rotating. Place a new battery (CR2032 Panasonic or equivalent) positive (+) side up or facing you. Replace and tighten the cap.

Battery Duration: Depending on the intensity and conditions, your battery can last up to 720+ hours of continuous use.

Illumination System Operation

Variable rheostat mounted on eyepiece

To increase or decrease reticle illumination rotate numbered rheostat dial from one to ten.



Operation of NXS Integrated Illumination System

To activate reticle illumination pull outward on the parallax turret assembly.
To deactivate the reticle illumination push inward on the parallax turret assembly.

Adjusting the variable illumination reticle intensity on the NXS riflescope.

When the Nightforce NXS reticle illumination system is activated it will illuminate at one predetermined setting. You have the ability to change the reticle illumination intensity by turning a small rheostat located inside the battery compartment. Using a small jewelers screwdriver, turn the rheostat counter clockwise to increase the illumination intensity or turn the rheostat clockwise to decrease the illumination intensity.

Care and Cleaning

Use a lens brush to remove loose particles of dust and a high-grade glass cleaner applied on a cotton swab. Do not apply excessive pressure and begin moving in a circular motion from center to outer edge of the lens.

Mounting System

This mounting system offers unequalled machined precision and durability. Nightforce bases are CNC machined from a single steel billet and are available for Remington, Winchester, Weatherby and Savage actions. The one-piece and two-piece mounting system can increase internal adjustment of the scope by 40 M.O.A. and 20 M.O.A. respectively.

Steel 30mm Picatinny or Mil-Spec rings position NXS scopes low on the rifle and are sold in serialized matched pairs. Nightforce Rings are available in .885", 1.0" and 1.125" heights.

Accessories

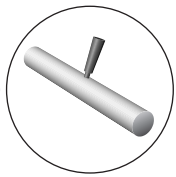
*Visit **www.nightforceoptics.com** for complete information on these other fine Nightforce products, made in the U.S.A.:*

Mirage Tube

Tripod

Drag Bag

Torque Wrench



Lapping Bar

Nightforce Owner Survey

Answering the following question will help us maintain the high level of quality and service Nightforce owners have come to expect. We encourage your input.

What changes or modifications would you recommend be made to improve this product?

Other Comments:

Owner Registration Card

Please fill out and return this product registration card within 30 days of purchase. Return to the address below. We retain this card for warranty eligibility.

Name:

Address:

City: *State:* *Zip:*

Model No.: *Serial No.:* *Phone No.:*

Date of Purchase: *Purchased From:*

Where did you hear about our products?

Attach Proof of Purchase:

Lightforce USA Inc.

P.O. Box 9 • Orofino, Idaho 83544

PLACE
STAMP
HERE

Lightforce USA Inc.

P.O. Box 9

Orofino, Idaho 83544

NIGHTFORCE

Limited Lifetime Warranty

Your Nightforce Riflescope is unquestionably warranted to be free from defects in materials and workmanship. Exclusions to this warranty include/but are not limited to: abuse, mishandling or improper mounting. In the event of a defect in materials or workmanship we will repair or replace the instrument at our option, provided you return the scope postage pre-paid along with a description of the defect with your shipping address and phone number to the address below.

Lightforce, USA Inc.

P.O. Box 9 • Orofino, Idaho 83544 • 208-476-9814 (tel) • 208-476-9817 (fax)

www.nightforceoptics.com • www.nightforcescopes.com

Nightforce Precision Optics

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